



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,159	07/28/2003	Stephen John Fedigan	TI-34824	4363
23494	7590	12/24/2008	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED			FAULK, DEVONA E	
P O BOX 655474, M/S 3999				
DALLAS, TX 75265			ART UNIT	PAPER NUMBER
			2614	
			NOTIFICATION DATE	DELIVERY MODE
			12/24/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com

Office Action Summary	Application No.	Applicant(s)	
	10/628,159	FEDIGAN, STEPHEN JOHN	
	Examiner	Art Unit	
	DEVONA E. FAULK	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 10 December 2008.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-4, 7, 8, 20 and 21 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-4, 7 and 20 is/are rejected.
 7) Claim(s) 8 and 21 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 7/28/03 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/10/08 has been entered.

Response to Arguments

2. Applicant's arguments filed 12/10/08 have been fully considered but they are not persuasive.

Regarding the claim objection to claim 1, the applicant asserts that the application states at page 6, lines 20 to 26 clearly states that the electromagnetic coil structure is affixed to the rear of the cone and that the wedge is optional. The examiner asserts that the claim objection was with really with claim 1. Claim 4 accurately recites what was disclosed. This is clear if the applicant looks at the rejection of claim 4. The examiner used a different interpretation of the limitation of claim 1 because the examiner felt the noted limitation was not disclosed. Regarding , the cited portion of the specification, the examiner asserts that just because the wedge is optional does not mean that the second unit is mounted on the cone, it could mean that the coil is mounted using some other method. So, the examiner is maintaining the claim objection to claim 1.

Regarding the applicant's arguments asserting that the prior art fails to disclose for claim 1 " a position on said cone radially offset from said axis" and for claims 2 and 7, " said first unit comprises a core (or coil) structure and wherein said second unit comprises a coil (core) structure, the examiner disagrees. The examiner asserts that the portion of the specification cited from Prior art Pulfrey reads on this claim language.

Regarding claim 2, the applicant asserts that the examiner failed to cite a specific structure. The examiner asserts that the examiner directed the applicant to see Pulfrey and Saik as applied to claim 1. Claim 1, particularly limitation (a) clearly reads on the claim language of claim 2. The examiner cited where this was disclosed in prior art Pulfrey. The examiner is maintaining the rejections set forth in the previous office action.

Regarding claim 4, the examiner stands by the rejection of claim 4. The wedge was not disclosed in the cited prior art. The examiner cited official notice that using a wedge is well known in the art. The examiner can provide a reference for the official notice statement.

Regarding claim 3, the applicant asserts that the examiner failed to cite where " said second unit is mounted at a substantially stationaly node on said cone". The examiner disagrees. The examiner directed the applicant to Pulfrey and Saik as applied to claim 1. Claim 1 , particularly limitaiton (a) reads on the noted limitation of claim 3. The examiner provided citation in claim 1. The examiner is maintaining the rejection.

3. Claims 5,6,9-19, are cancelled. Claims 20 and 21 are new.

4. The applicant has amended claim 8 to overcome the 112 rejection set forth in the previous office action.

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claim 1 recites " ... a second unit mounted for movement with said speaker cone at a position on the cone...". The specification discloses that the coil is affixed to the cone using wedge 68 (Figure 1; page 6, lines 20-25). The coil is not on the cone, it is suspended from the cone or attached to the cone. This is lack of antecedent basis for the claim language noted above.

Claim Objections

2. Claim 1 is objected to because of the following informalities: Claim 1 recites " ... a second unit mounted for movement with said speaker cone at a position on the cone...". The specification discloses that the coil is affixed to the cone using wedge 68 (Figure 1; page 6, lines 20-25). The coil is not on the cone, it is suspended from the cone or attached to the cone. Appropriate correction is required. The examiner has interpreted the claim to recite suspended from or attached to the cone.

3. Claims 8 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pulfrey (US 5,493,620) in view of Saik et al. (US 4,312,118).

Regarding claim 1, Pulfrey discloses an apparatus for measuring speaker cone displacement relative to a fixed position in an audio speaker having a voice coil aligned with the cone along an axis (cone 21, voice coil 30, Figure 2; column 2, lines 19-55; column 5, lines 5-15), the apparatus comprising:

(a) a variable reluctance sensor device (cone motion velocity sensing structure, 40; column 4, lines 53-61); said sensor device including a first unit fixed relative to said fixed position (annular cylindrical permanent magnet 28, Figure 2; column 5, lines 9-15), and the a second unit mounted for movement with said speaker cone at a position radially offset from said axis (voice coil 30; column 5, lines 5-20);

(b) a signal injecting circuit coupled for injecting a predetermined input signal into-said one of said first and second units (signal amplification channel 10, Figure 2; predetermined input signal is the input from input signal source at terminals 13 of the signal amplification channel; column 4, line 61-column 5, line 5); and

(c) a signal receiving circuit coupled with said one of said first and second units-for receiving a signal resulting from modulation of said input signal due to variation of reluctance of said sensor device caused by displacement of said first unit relative to said second unit and for generating an indicating signal based upon said resulting signal; at least one signal characteristic of said indicating signal being related with said cone displacement (active differentiating circuit 60, Figure 2 reads on signal receiving circuit as claimed; column 6, lines 6-13 and lines 34-45; sensing coil 47, Figure 2; column 6, lines 9-13).

Pulfrey teaches of a coil but fails to disclose that the coil is attached to or suspended from the cone. Saik discloses a coil suspended from a cone (coil 30 is suspended from cone 22; column 5, lines 2-6). It would have been obvious to modify Pulfrey so that the coil is attached to the cone for the benefit of securing the coil in the loudspeaker.

Regarding claim 2, Pulfrey as modified by Saik discloses wherein said first unit is comprises one of an electromagnetic coil structure and a core structure; and wherein said second unit comprises the other of said electromagnetic coil structure and said core structure (See Pulfrey as applied above to the rejection of claim 1). All elements of claim 2 are comprehended by the rejection of claim 1.

Regarding claim 3, Pulfrey as modified by Saik discloses wherein said second unit is structure mounted at a substantially stationary node on said cone (See Pulfrey and Saik as applied above to the rejection of claim 1). All elements of claim 3 are comprehended by the rejection of claim 1.

Regarding claim 4, Pulfrey discloses wherein said second unit is structure is attached to or suspended from said cone using a wedge. Pulfrey as modified by Saik discloses a second unit attached to a cone (See Pulfrey and Saik as applied above to claim 1). Pulfrey and Saik fail to disclose that the second unit is attached using a wedge. The examiner takes official notice that a wedge is well known in the art . It would have been obvious to modify Pulfrey as modified so that the second unit is attached to the cone for the benefit of providing an alternative way of securing the second unit.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pulfrey (US 5,493,620) in view of Saik et al. (US 4,312,118) in further view of Joseph et al. (US 4,360,707).

Regarding claim 7, Pulfrey as modified by Saik discloses wherein said first unit comprises one of an electromagnetic coil structure and a core structure; and wherein said second unit comprises the other of said electromagnetic coil structure and said core structure See Pulfrey and Saik as applied above to claims 1 and 5). All elements of claim 7 are comprehended by the rejection of claim 5.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pulfrey (US 5,493,620) in view of Saik et al. (US 4,312,118) in further view of Stiles (US 6,940,992).

Regarding claim 20, Pulfrey as modified discloses a plate (copper plate 41, Figure 1; column 5, lines 32-37) and a first unit mounted. Pulfrey as modified fails to disclose or make obvious a supplemental top plate connected to said to said top plate having said first unit mounted thereon, the fist unit mounted thereon. Stiles teaches of a supplemental plate mounted on another plate (primary plate 24 is mounted on pole plate 12). The examiner asserts that how the first unit is mounted is a matter of design choice. It would have been obvious to modify Pulfrey as modified to include a supplemental plate, mounting the first unit thereon for the benefit of better securing the first unit.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEVONA E. FAULK whose telephone number is (571)272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devona E. Faulk/
Examiner, Art Unit 2614